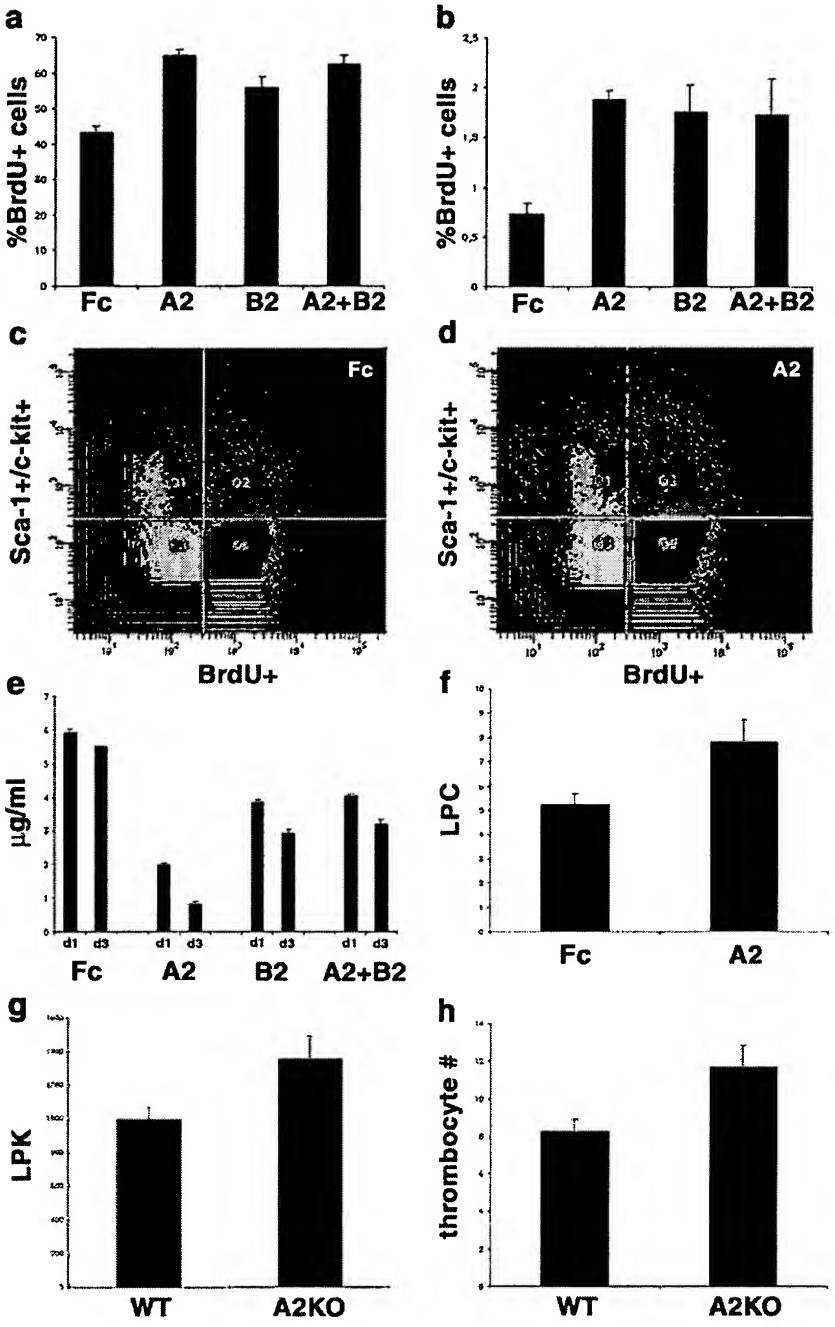
a
%BrdU+ cells
Fc
A2
B2
A2+B2
b
%BrdU+ cells
Fc
A2
B2
A2+B2
c
Fc
Sca-1+/c-kit+
BrdU+
d
A2
Sca-1+/c-kit+
BrdU+
e
µg/ml
d1
d3
Fc
A2
B2
A2+B2
f
LPC
Fc
A2
g
LPK
WT
A2KO
h
thrombocyte #
WT
A2KO

Figure 1

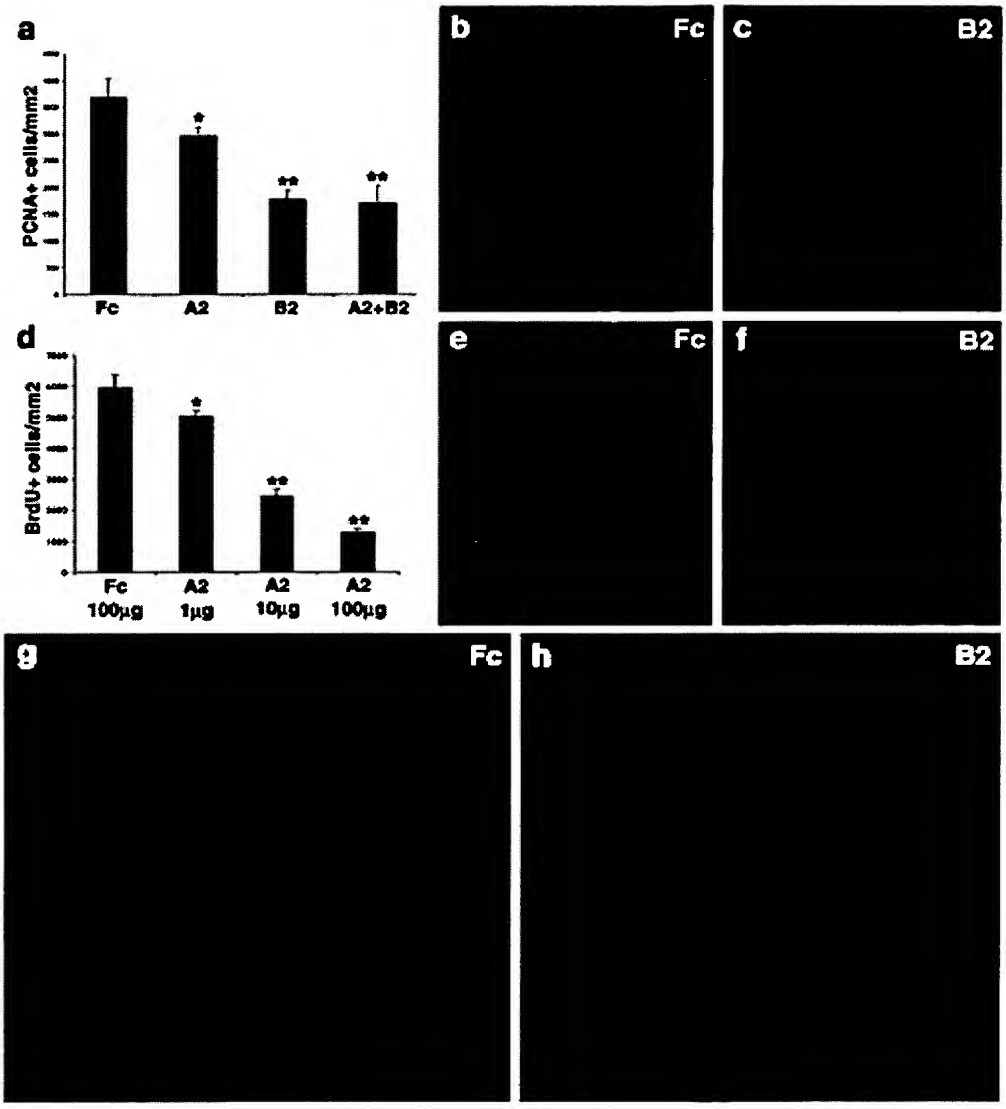
a
PCNA+ cells/mm2
Fc
A2
B2
A2+B2
b
Fc
c
B2
d
BrdU+ cells/mm2
Fc 100µg
A2 1µg
A2 10µg
A2 100µg
e
Fc
f
B2
g
Fc
h
B2

Figure 2

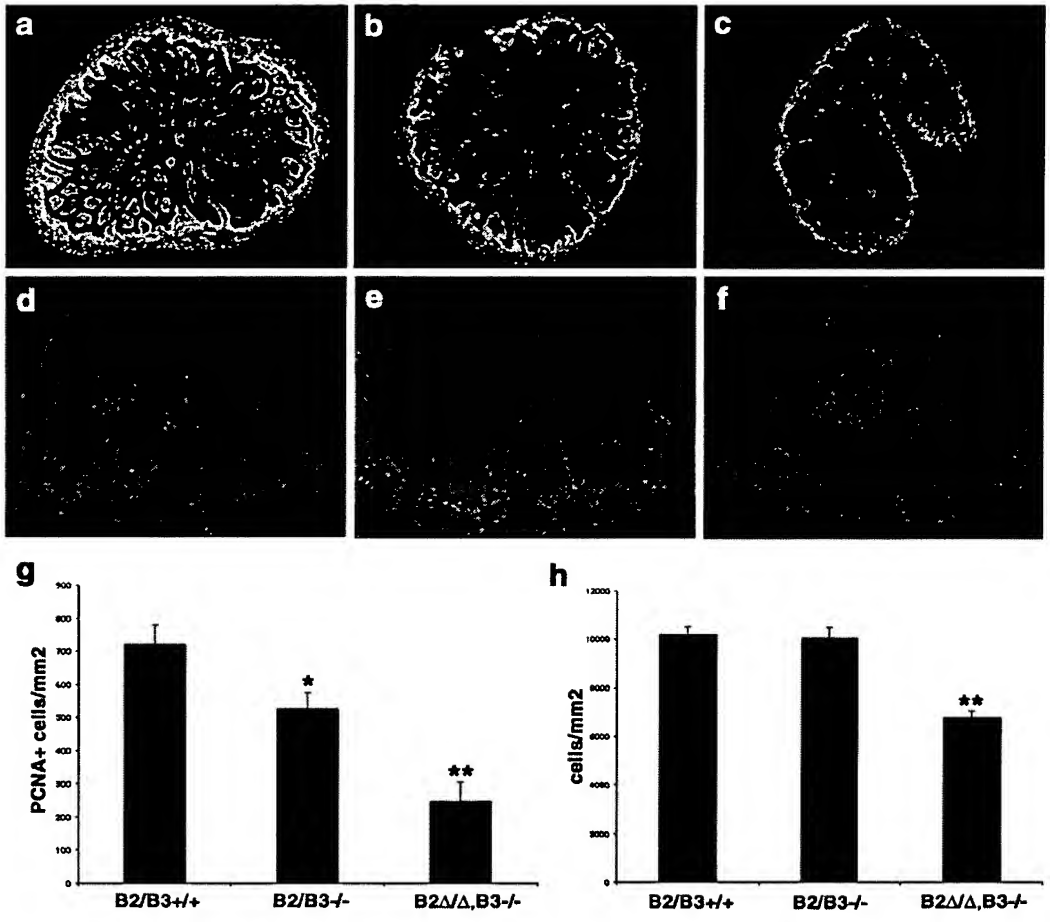
a
b
c
d
e
f
g
PCNA+ cells/mm2
*
**
B2/B3+/+
B2/B3-/-
B2Δ/Δ,B3-/-
h
cells/mm2
**
B2/B3+/+
B2/B3-/-
B2Δ/Δ,B3-/-

Fig. 3

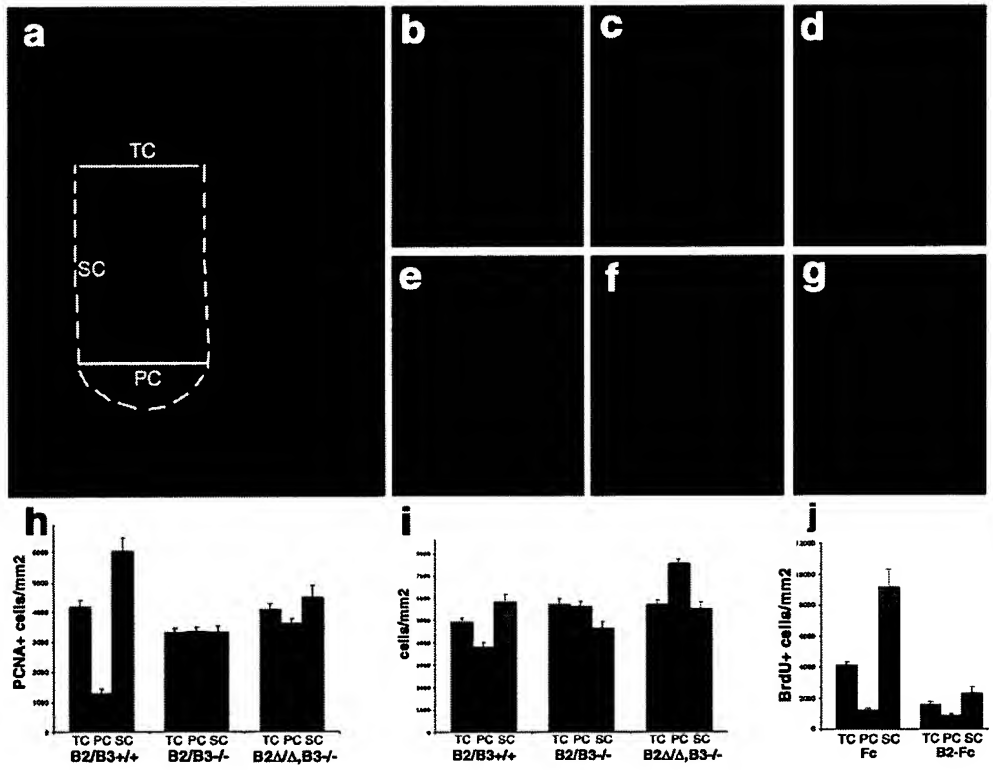
a
TC
SC
PC
b
c
d
e
f
g
h
PCNA+ cells/mm2
TC PC SC
B2/B3+/+
TC PC SC
B2/B3-/-
TC PC SC
B2Δ/Δ,B3-/-
i
cells/mm2
TC PC SC
B2/B3+/+
TC PC SC
B2/B3-/-
TC PC SC
B2Δ/Δ,B3-/-
j
BrdU+ cells/mm2
TC PC SC
Fc
TC PC SC
B2-Fc

Fig. 4

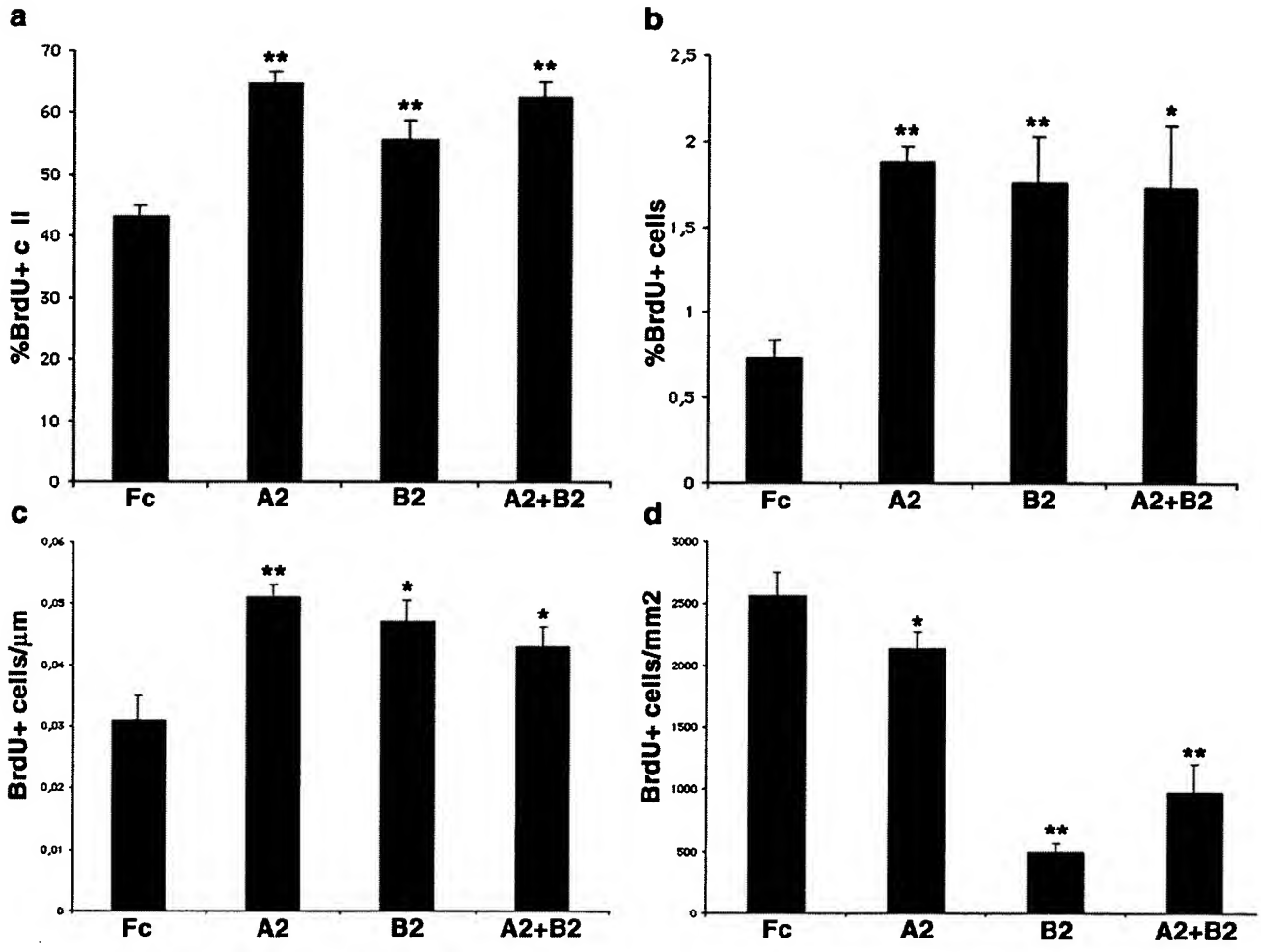
a
%BrdU+ c II
70
60
50
40
30
20
10
0
**
**
**
Fc
A2
B2
A2+B2
b
%BrdU+ cells
2,5
2
1,5
1
0,5
0
**
**
*
Fc
A2
B2
A2+B2
c
BrdU+ cells/µm
0,06
0,05
0,04
0,03
0,02
0,01
0
**
*
*
Fc
A2
B2
A2+B2
d
BrdU+ cells/mm2
3000
2500
2000
1500
1000
500
0
*
**
**
Fc
A2
B2
A2+B2

Fig.5

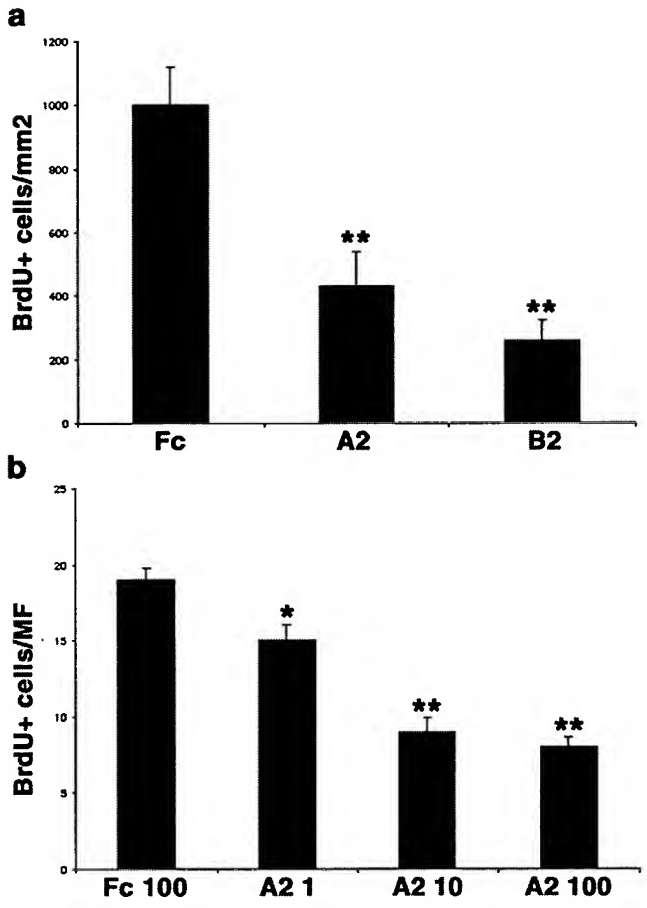
a
BrdU+ cells/mm2
1200
1000
800
600
400
200
0
**
**
Fc
A2
B2
b
BrdU+ cells/MF
25
20
15
10
5
0
*
**
**
Fc 100
A2 1
A2 10
A2 100

Fig.6

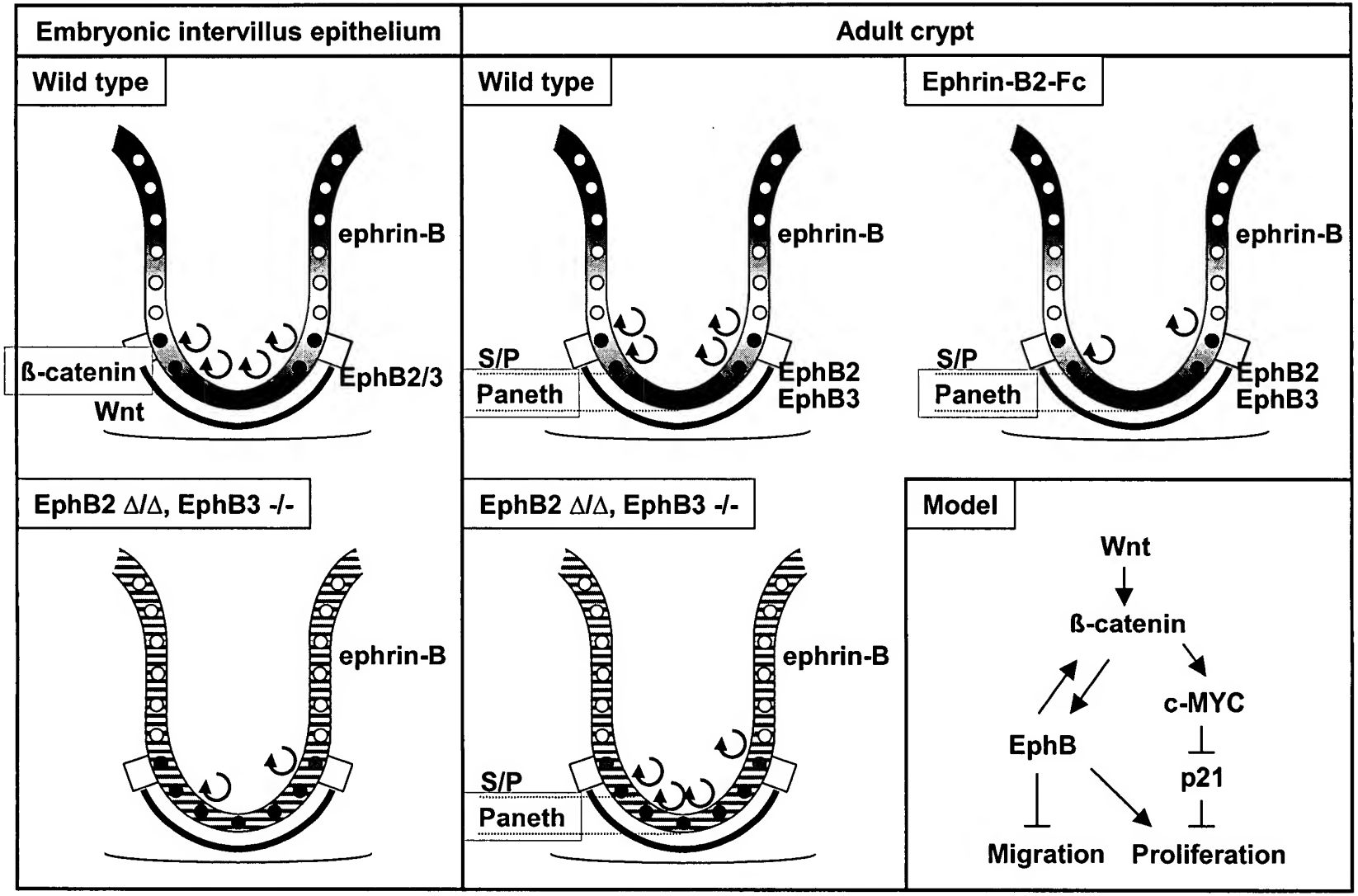
Embryonic intervillus epithelium
Adult crypt
Wild type
ephrin-B
ß-catenin
EphB2/3
Wnt
Wild type
ephrin-B
S/P
Paneth
EphB2
EphB3
Ephrin-B2-Fc
ephrin-B
S/P
Paneth
EphB2
EphB3
EphB2 Δ/Δ, EphB3 -/-
ephrin-B
EphB2 Δ/Δ, EphB3 -/-
ephrin-B
S/P
Paneth
Model
Wnt
ß-catenin
c-MYC
EphB
p21
Migration
Proliferation

Figure 7

FIG. 8

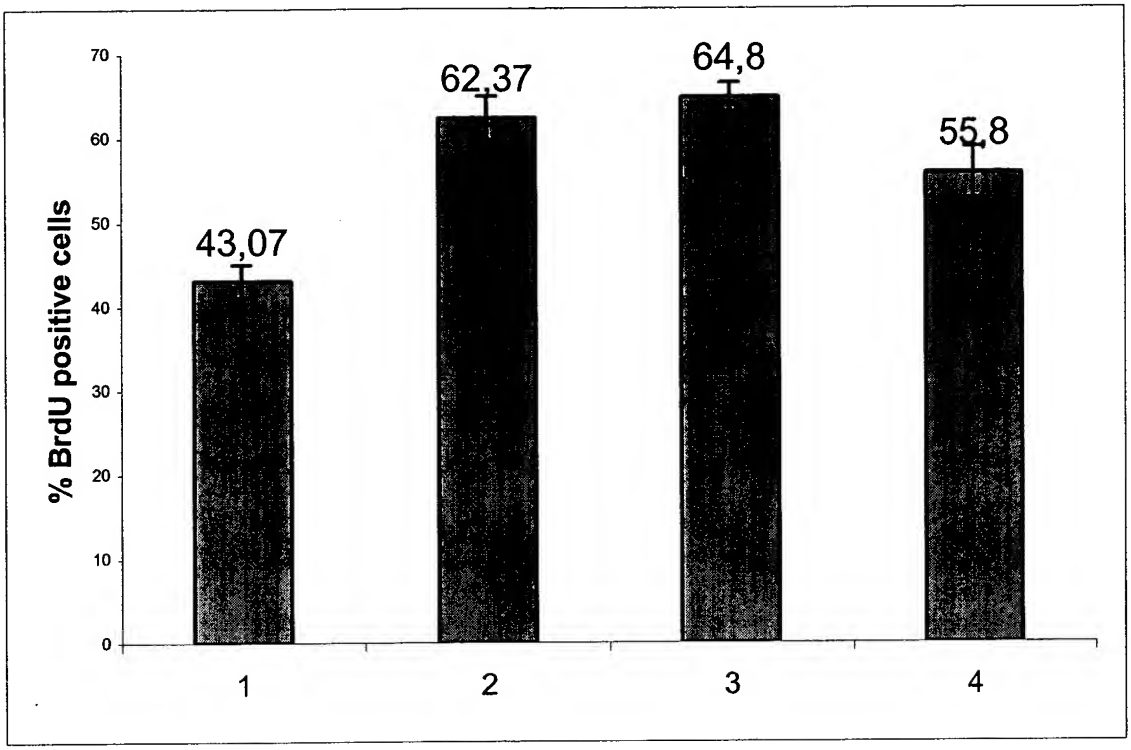
% BrdU positive cells
70
60
50
40
30
20
10
0
43,07
62,37
64,8
55,8
1
2
3
4

FIG. 9

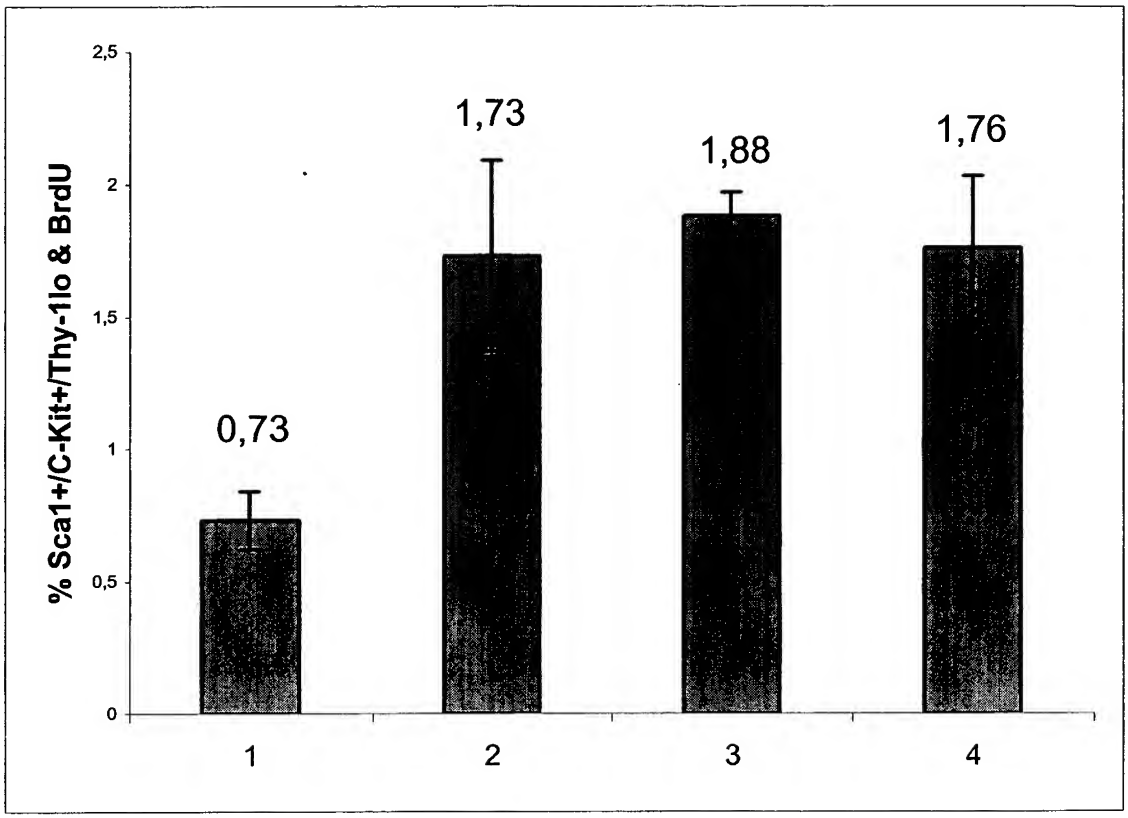

FIG. 10

Ephrin A1 [Mus musculus]
ACCESSION NP_034237

Region 17..153

```
   1 meflwapllg lccslaaadr hivfwnssnp kfreedytvh vqlndyldii cphyeddsva
  61 daamerytly mvehqeyvac qpqskdqvrw ncnrpsakhg peklsvkfqr ftpfilgkef
 121 keghsyyyis kpiyhqesqc lklkvtvngk ithnpqahvn pqekrlqadd pevqvlhsig
 181 ysaaprlfpl vwavlllpll llqsq
```

Ephrin A2 [Mus musculus]
ACCESSION AAH48697

Region 30..170

```
   1 mapaqrpllp lllllplra rnedparana dryavywnrs nprfqvsavg dgggytvevs
  61 indyldiycp hygaplppae rmeryilymv ngeghascdh rqrgfkrwec nrpaapggpl
 121 kfsekfqlft pfslgfefrp gheyyyisat ppnlvdrpcl rlkvyvrptn etlyeapepi
 181 ftsnsscsgl ggchlflttv pvlwsllgs
```

Ephrin A3 [Mus musculus].
ACCESSION XP_204001

Region 31..163

```
   1 maaaplllll llvpvpllpl laqgpggalg nrhavywnss nqhlrregyt vqvnvndyld
  61 iycphynssg pgggaeqyvl ymvnlsgyrt cnasqgskrw ecnrqhashs pikfsekfqr
 121 ysafslgyef hagqeyyyis tpthnlhwkc lrmkvfvcca stshsgekpv ptlpqftmgp
 181 nvkinvledf egenpqvpkl eksisgtspk rehlplavgi afflmtllas
```

Ephrin-A4 Mus musculus (house mouse)
ACCESSION O08542

Variant 1..4 MRLL -> MLLRLGLIYPPTRPPAPPGPLV
Region 26..206

```
   1 mrllpllrtv lwaallgsrl pgcsslrhpi ywnssnprll rgdavvelgf ndyldifcph
  61 yespgppegp etfalymvdw sgyeactaeg anafqrwncs mpfapfspvr fsekiqrytp
 121 fplgfeflpg etyyyisvpt pespgrclrl qvsvcckesg sshesahpvg spgesgtsgw
 181 rgghapsplc lllllllpil rllrvl
```

Ephrin-A5 precursor Mus musculus (house mouse)
ACCESSION O08543

Region 21..228

```
   1 mlhvemltll flvlwmcvfs qdpgskvvad ryavywnssn prfqrgdyhi dvcindyldv
  61 fcphyedsvp edkteryvly mvnfdgysac dhtskgfkrw ecnrphspng plkfsekfql
 121 ftpfslgfef rpgreyfyis saipdngrrs clklkvfvrp tnscmktigv hdrvfdvndk
 181 venslepadd tvhesaepsr genaaqtpri psrllaillf llamlltl
```

FIG. 11

Ephrin B1 [Mus musculus].
ACCESSION AAH21656

Region amino acids 29-166

```
  1 marpgqrwls kwlvamvvlt lcrlatplak nlepvswssl npkflsgkgl viypkigdkl
 61 diicpraeag rpyeyyklyl vrpeqaaacs tvldpnvlvt cnkphqeirf tikfqefspn
121 ymglefkkyh dyyitstsng sleglenreg gvcrtrtmki vmkvgqdpna vtpeqlttsr
181 pskesdntvk tatqapgrgs qgdsdgkhet vnqeeksgpg aggggsgdsd sffnskvalf
241 aavgagcvif lliiifltvl llklrkrhrk htqqraaals lstlaspkgg sgtagtepsd
301 iiiplrtten nycphyekvs gdyghpvyiv qemppqspan iyykv
```

Ephrin B2 [Mus musculus].
ACCESSION AAH57009

Region amino acids 30-169
Variant amino acids 2-3 "AM" DELETED

```
  1 mamarsrrds vwkycwgllm vlcrtaisrs ivlepiywns snskflpgqg lvlypqigdk
 61 ldiicpkvds ktvgqyeyyk vymvdkdqad rctikkentp llncarpdqd vkftikfqef
121 spnlwglefq knkdyyiist sngslegldn qeggvcqtra mkilmkvgqd assagsarnh
181 gptrrpelea gtngrsstts pfvkpnpgss tdgnsaghsg nnllgseval fagiasgcii
241 fiviiitlvv lllkyrrrhr khspqhtttl slstlatpkr ggnnngseps dviiplrtad
301 svfcphyekv sgdyghpvyi vqemppqspa niyykv
```

Ephrin B3 [Mus musculus].
ACCESSION AAH58617

Region amino acids 31-169

```
  1 mgaphfgpgg vqvgallllg faglvsglsl epvywnsank rfqaeggyvl ypqigdrldl
 61 lcprarppgp hsspsyefyk lylvegaqgr rceappapnl lltcdrpdld lrftikfqey
121 spnlwghefr shhdyyiiat sdgtregles lqggvcltrg mkvllrvgqs prggavprkp
181 vsempmerdr gaahsaepgr dtipgdpssn atsrgaegpl pppsmpavag aaggmallll
241 gvagaggamc wrrrrakpse srhpgpgsfg rggslglggg ggmgpreaep gelgialrgg
301 gtadppfcph yekvsgdygh pvyivqdgpp qsppniyykv
```

FIG. 12

Ephrin-A1 [Homo sapiens]
ACCESSION P20827

Region amino acids 18-205

```
   1 meflwapllg lccslaaadr htvfwnssnp kfrnedytih vqlndyvdii cphyedhsva
  61 daameqyily lveheeyqlc qpqskdqvrw qcnrpsakhg peklsekfqr ftpftlgkef
 121 keghsyyyis kpihqhedrc lrlkvtvsgk ithspqahvn pqekrlaadd pevrvlhsig
 181 hsaaprlfpl awtvlllpll llqtp
```

Ephrin-A2 [Homo sapiens]
ACCESSION NP_001396

Region amino acids 34-174

```
   1 mapaqrpllp lllllplpp ppfaraedaa ransdryavy wnrsnprfha gagddgggyt
  61 vevsindyld iycphygapl ppaermehyv lymvngegha scdhrqrgfk rwecnrpaap
 121 ggplkfsekf qlftpfslgf efrpgheyyy isatppnavd rpclrlkvyv rptnetlyea
 181 pepiftsnns csspggcrlf lstipvlwtl lgs
```

Ephrin-A3 [Homo sapiens]
ACCESSION P52797

Region amino acids 23..238
Variant amino acids 71-74 "VGPG" DELETED

```
   1 maaapllllll llvpvpllpl laqgpggalg nrhavywnss nqhlrregyt vqvnvndyld
  61 iycphynssg vgpgagpgpg ggaeqyvlym vsrngyrtcn asqgfkrwec nrphaphspi
 121 kfsekfqrys afslgyefha gheyyyistp thnlhwkclr mkvfvccast shsgekpvpt
 181 lpqftmgpnv kinvledfeg enpqvpklek sisgtspkre hlplavgiaf flmtflas
```

Ephrin A4 [Homo sapiens].
ACCESSION NP_005218

Region amino acids 24-155

```
   1 mrllpllrtv lwaaflgspl rggsslrhvv ywnssnprll rgdavvelgl ndyldivcph
  61 yegpgppegp etfalymvdw pgyescqaeg praykrwvcs lpfghvqfse kiqrftpfsl
 121 gfeflpgety yyisvptpes sgqclrlqvs vcckerkses ahpvgspges gtsgwrggdt
 181 psplcllll lllilrllri l
```

Ephrin-A5 [Homo sapiens].
ACCESSION NP_001953

Region amino acids 28-164
variation amino acid 55 allele=N; allele=K

```
   1 mlhvemltlv flvlwmcvfs qdpgskavad ryavywnssn prfqrgdyhi dvcindyldv
  61 fcphyedsvp edkteryvly mvnfdgysac dhtskgfkrw ecnrphspng plkfsekfql
 121 ftpfslgfef rpgreyfyis saipdngrrs clklkvfvrp tnscmktigv hdrvfdvndk
 181 venslepadd tvhesaepsr genaaqtpri psrllaillf llamlltl
```

FIG. 13

Ephrin-B1 [Homo sapiens]
ACCESSION NP_004420

Region amino acids 29-166
variation amino acid 172; allele=T; allele=M

```
  1 marpgqrwlg kwlvamvvwa lcrlatplak nlepvswssl npkflsgkgl viypkigdkl
 61 diicpraeag rpyeyyklyl vrpeqaaacs tvldpnvlvt cnrpeqeirf tikfqefspn
121 ymglefkkhh dyyitstsng sleglenreg gvcrtrtmki imkvgqdpna vtpeqlttsr
181 pskeadntvk matqapgsrg slgdsdgkhe tvnqeeksgp gasggssgdp dgffnskval
241 faavgagcvi flliiifltv lllklrkrhr khtqqraaal slstlaspkg gsgtagteps
301 diiiplrtte nnycphyekv sgdyghpvyi vqemppqspa niyykv
```

Ephrin B2 [Homo sapiens].
ACCESSION NP_004084

Region amino acids 27-166
variation amino acid 76; allele=H; allele=Y

```
  1 mavrrdsvwk ycwgvlmvlc rtaisksivl epiywnssns kflpgqglvl ypqigdkldi
 61 icpkvdsktv gqyeyykvym vdkdqadrct ikkentplln cakpdqdikf tikfqefspn
121 lwglefqknk dyyiistsng slegldnqeg gvcqtramki lmkvgqdass agstrnkdpt
181 rrpeleagtn grssttspfv kpnpgsstdg nsaghsgnni lgsevalfag iasgciifiv
241 iiitlvvlll kyrrrhrkhs pqhtttlsls tlatpkrsgn nngsepsdii iplrtadsvf
301 cphyekvsgd yghpvyivqe mppqspaniy ykv
```

Ephrin-B3 [Homo sapiens]
ACCESSION Q15768

Region amino acids 28-226

```
  1 mgpphsgpgg vrvgallllg vlglvsglsl epvywnsank rfqaeggyvl ypqigdrldl
 61 lcprarppgp hsspnyefyk lylvggaqgr rceappapnl lltcdrpdld lrftikfqey
121 spnlwghefr shhdyyiiat sdgtregles lqggvcltrg mkvllrvgqs prggavprkp
181 vsempmerdr gaahslepgk enlpgdptsn atsrgaegpl pppsmpavag aagglallll
241 gvagaggamc wrrrrakpse srhpgpgsfg rggslglggg ggmgpreaep gelgialrgg
301 gaadppfcph yekvsgdygh pvyivqdgpp qsppniyykv
```

FIG. 14

GST-EphA7-LBD; GST amino acids 1-231; EphA7 amino acids 232-410

MSPILGYWKI KGLVQPTRLL LEYLEEKYEE HLYERDEGDK WRNKKFELGL EFPNLPYYID
GDVKLTQSMA IIRYIADKHN MLGGCPKERA EISMLEGAVL DIRYGVSRIA YSKDFETLKV
DFLSKLPEML KMFEDRLCHK TYLNGDHVTH PDFMLYDALD VVLYMDPMCL DAFPKLVCFK
KRIEAIPQID KYLKSSKYIA WPLQGWQATF GGGDHPPKSD LVPRGSPEFP GEVLLLDSKA
QQTELEWISS PPNGWEEISG LDENYTPIRT YQVCQVMEPN QNNWLRTNWI SKGNAQRIFV
ELKFTLRDCN SLPGVLGTCK ETFNLYYYET DYDTGRNIRE NLYVKIDTIA ADESFTQGDL
GERKMKLNTE VREIGPLSKK GFYLAFQDVG ACIALVSVKV YYKKCWSIIE LERPHRD

Mouse Ephrin-A2 exodomain

MAPAQRPLLP LLLLLLPLRA RNEDPARANA DRYAVYWNRS NPRFQVSAVG DGGGYTVEVS
INDYLDIYCP HYGAPLPPAE RMERYILYMV NGEGHASCDH RQRGFKRWEC NRPAAPGGPL
KFSEKFQLFT PFSLGFEFRP GHEYYYISAT PPNLVDRPCL RLKVYVRPTN ETLYEAPEPI
FTSN

Human-Ephrin-A2 exodomain

MAPAQAPLLP LLLLLLPLPP PPFAPPEDRR RANSDRYAVY WNRSNPRFHA GAGDDGGGYT
VEVSINDYLD IYCPHYGAPL PPAERMEHYV LYMVNGEGHA SCDHRQRGFK RWECNRPAAP
GGPLKFSEKF QLFTPFSLGF EFRPGHEYYY ISATPPNAVD RPCLRLKVYV RPTNETLYEA
PEPIFTSN

Mouse ephrin-B2 exodomain; Variant amino acids 2-3 "AM" DELETED

MAMARSRRDS VWKYCWGLLM VLCRTAISRS IVLEPIYWNS SNSKFLPGQG LVLYPQIGDK
LDIICPKVDS KTVGQYEYYK VYMVDKDQAD RCTIKKENTP LLNCARPDQD VKFTIKFQEF
SPNLWGLEFQ KNKDYYIIST SNGSLEGLDN QEGGVCQTRA MKILMKVGQD ASSAGSARNH
GPTRRPELEA GTNGRSSTTS PFVKPNPGSS TDGNSAGHSG NNLLGSEVA

Human Ephrin-B2 exodomain

MAVRRDSVWK YCWGVLMVLC RTAISKSIVL EPIYWNSSNS KFLPGQGLVL YPQIGDKLDI
ICPKVDSKTV GQYEYYKVYM VDKDQADRCT IKKENTPLLN CAKPDQDIKF TIKFQEFSPN
LWGLEFQKNK DYYIISTSNG SLEGLDNQEG GVCQTRAMKI LMKVGQDASS AGSTRNKDPT
RRPELEAGTN GRSSTTSPFV KPNPGSSTDG NSAGHSGNNI LGSEVA

Ig gamma-1 chain C region [Homo sapiens]
ACCESSION P01857

Variant amino acid 97 K -> R (IN G1M(3) MARKER)
Variant amino acid 239 D -> E (IN G1M(NON-1) MARKER)
Variant amino acid 241 L -> M (IN G1M(NON-1) MARKER)

```
  1 astkgpsvfp lapsskstsg gtaalgclvk dyfpepvtvs wnsgaltsgv htfpavlqss
 61 glyslssvvt vpssslgtqt yicnvnhkps ntkvdkkvep kscdkthtcp pcpapellgg
121 psvflfppkp kdtlmisrtp evtcvvvdvs hedpevkfnw yvdgvevhna ktkpreeqyn
181 styrvvsvlt vlhqdwlngk eykckvsnka lpapiektis kakgqprepq vytlppsrde
241 ltknqvsltc lvkgfypsdi avewesngqp ennykttppv ldsdgsffly skltvdksrw
301 qqgnvfscsv mhealhnhyt qkslslspgk
```